## SUPPORT FOR AMENDMENTS

The claims are amended for clarity. Support can be found in the claims as originally filed. Additional support for the amendments to Claims 1 and 2 can be found on page 23, lines 2-7 of the specification.

Claims 14-20 are newly added. Support for these claims can be found in the claims as originally filed and in the specification at points listed below:

- Claim 14: Original Claim 6 and page 16, lines 14 through page 17, line 1;
- Claims 15 & 16: Original Claims 1 & 9;
- Claim 17: page 17, lines 21-24;
- Claim 18: page 18, lines 5-14;
- Claim 19: Original Claim 10; and
- Claim 20: page 17: lines 9-13.

No new matter has been added.

## REMARKS/ARGUMENTS

The present claims relate to (meth)acrylic resin emulsions comprising: as a dispersant, a vinyl alcohol polymer having a degree of saponification of from 80 to 95 mol% and a degree of polymerization of from 400 to 2000, and as a dispersoid, a polymer comprising at least one type of reacted monomer units selected from the group consisting of an acrylate monomer unit and a methacrylate monomer unit, wherein said emulsion has a "factor a" of at least 0.3 that indicates the particle size distribution width of the emulsion and of which a film formed at 20°C and 65 % RH to have a thickness of 500 μm has a tensile strength of at least 100 $kg/cm^2$ and a dissolution of said film is at most 10% when dipped in an aqueous 1 N sodium hydroxide solution at 20°C for 24 hours.

The rejection of Claims 1, 2, and 4 under 35 U.S.C. § 102(b) or alternatively under 35 U.S.C. § 103(a) in view of U.S. Patent 6,495,623 (**Tanimoto et al. '623**) is respectfully traversed. **Tanimoto et al. '623** discloses aqueous emulsions and dispersants for suspension polymerization of vinyl compounds. The resin emulsions disclosed in the cited art are made from vinyl acetate as a monomer. A resin emulsion similar to the **Tanimoto et al. '623** emulsions is shown in Comparative Example 9 of the present application. The film resulting from the emulsion of this Comparative Example displays a dissolution of 70%. In contrast, the presently claimed resin emulsions display lower dissolutions (less than 10% - *See* Table 1, reproduced in part below).[1] Thus, **Tanimoto et al. '623** contains no disclosure of resin emulsions that form films having low dissolution. One of skill in the art would not be motivated to make resin emulsions displaying low dissolution based on the disclosure of this reference. Accordingly, the rejection should be withdrawn.

TABLE 1-continued

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ex. 12 | PVA-9 | 500 | 88 | 2 | 2.2 | all at the beginning | 50/50 (by weight) | all at the beginning | n-dodecyl-mercaptan | yes | | HPO | TAS |
| Co. Ex. 9 | PVA-1 | 800 | 88 | — | 1.6 | all at the beginning | vinyl acetate | all at the beginning | — | yes | | HPO | TAS |

| | Polymerization | Results of Emulsion Evaluation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Temperature | Polymerization | Film Strength | Alkali Resistance | | Mechanical | Particle | Particle Size | Film |
| | Profile (° C.) | Stability (g) | (kg/cm2) | dissolution (%) | swelling (%) | Stability (%) | Size (μm) | Distribution a | Transparency |
| Ex. 1 | 58–62 | 0.5 | 145 | 8 | 22 | 0.25 | 0.8 | 0.5 | ○ |
| Co. Ex. 1 | | Gelled during emulsion polymerization, no emulsion obtained. | | | | | | | |
| Co. Ex. 2 | | Emulsion polymerization uncontrollable, the test stopped. | | | | | | | |
| Ex. 2 | 58–62 | 0.1 | 155 | 5 | 17 | 0.1 | 0.5 | 0.9 | ○ |
| Co. Ex. 3 | | Gelled during emulsion polymerization, no emulsion obtained. | | | | | | | |
| Co. Ex. 4 | | Emulsion polymerization uncontrollable, the test stopped. | | | | | | | |
| Ex. 3 | 58–62 | 0.3 | 165 | 6 | 19 | 0.3 | 0.8 | 0.6 | ○ |
| Co. Ex. 5 | | Gelled during emulsion polymerization, no emulsion obtained. | | | | | | | |
| Ex. 4 | 58–62 | 0.1 | 150 | 7 | 20 | 0.13 | 0.4 | 0.8 | ○ |
| Ex. 5 | 58–62 | 0.3 | 150 | 6 | 19 | 0.3 | 0.8 | 0.6 | ○ |
| Ex. 6 | 57–63 | 0.7 | 130 | 9 | 28 | 0.4 | 0.7 | 0.6 | ○ |
| Ex. 7 | 58–62 | 0.3 | 150 | 8 | 22 | 0.22 | 0.5 | 0.8 | ○ |
| Co. Ex. 6 | 58–62 | After polymerization, the system gelled while cooled. | | | | | | | |
| Ex. 8 | 58–62 | 0.3 | 150 | 7 | 20 | 0.5 | 0.5 | 0.8 | ○ |
| Ex. 9 | 58–62 | 0.1 | 155 | 5 | 17 | 0.13 | 0.5 | 0.7 | ○ |
| Co. Ex. 7 | 75–85 | 1.2 | 120 | 15 | 33 | 2 | 1.2 | 0.08 | Δ |
| Co. Ex. 8 | 62–75 | 1.3 | 80 | 22 | 40 | 3.2 | 1.4 | 0.05 | x |
| Ex. 10 | 58–62 | 0.2 | 160 | 4 | 16 | 0.25 | 0.8 | 0.6 | ○ |
| Ex. 11 | 58–62 | 0.05 | 160 | 5 | 18 | 0.08 | 0.4 | 0.9 | ○ |
| Ex. 12 | 58–62 | 0.07 | 165 | 4 | 18 | 0.1 | 0.5 | 0.9 | ○ |
| Co. Ex. 9 | 58–62 | 0.05 | 150 | 70 | 60 | 0.28 | 0.7 | 0.2 | Δ |

HPO: hydrogen peroxide, KPS: potassium persulfate, APS: ammonium persulfate, SHS: sodium hydrogensulfite, TAS: sodium tartrate, BA: butyl acrylate, MMA: methyl methacrylate

[1] Table 1 is reproduced (in part) from US 2006/0217484.

The rejection of Claims 3 and 5 in view of **Tanimoto et al. '623** in view of U.S. Patent 6,451,898 (**Tanimoto et al. '898**) is respectfully traversed. **Tanimoto et al. '898** contains a similar disclosure to **Tanimoto et al. '623**, and also discloses resin emulsions obtained from polymerizing vinyl acetate. Thus, one of skill in the art would not be motivated to make films from resin emulsions that display low dissolution based on the disclosure of these references for the reasons presented above.

Accordingly, the rejection should be withdrawn.

The rejection of Claims 6-13 under 35 U.S.C. § 103(a) in view of **Tanimoto et al. '623** in view of Japanese Patent Application 2002-308939 (**Tanimoto et al. '939**) is respectfully traversed. **Tanimoto et al. '623**, discloses films based on the resin emulsions of this reference that have low Water resistance Bonding Strength to lumber values (e.g. 7 $kg/cm^2$ of Example 2).[2] In contrast, films resulting from the presently claimed emulsions display higher Film Strength values (from 130 to 165 $kg/cm^2$), as shown above in Table 1. On the other hand, **Tanimoto et al. '939** discloses an emulsion produced by a method similar to Comparative Example 9 of the present application, discussed above.[3] Therefore, one of skill in the art would not form resin emulsions from the presently claimed processes based on the disclosure of these references.

Accordingly, the rejection should be withdrawn.

For the same reasons discussed above, the cited references cannot affect the patentability of Claim 14 (and claims dependent thereon).

[2] See Table 2 of **Tanimoto et al. '623**.
[3] See page 7 of **Tanimoto et al. '939**.

Applicants respectfully submit that the present application is in condition for allowance. Early notification thereof is solicited.

Respectfully submitted,

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